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that the value of a revolution of the screw increases more slowly after a certain degree of separation of the images has been attained; this circumstance appears to perplex the Professor, since he calls special attention to it. I can account for it by supposing that there may be a slight flattening of the curvature of the lens towards its edge, in fact, an approach to the hyperbolic curve; were it possible to make a single lens free from aberration, or to apply a corrected lens here, a perfect screw would give an equal scale to the micrometer. The Astronomer Royal suggested that one-half of the divided lens should be fixed for the sake of simplicity of construction. Those made previously had both segments movable equally in opposite directions by a right and left-handed screw, which were acted upon by a single micrometer head. Professor Kaiser's proposition of making each segment movable by a separate screw would enable the observer to distinguish the error of screw from that introduced by the form of the lens, and give great facility in the investigations which appear to be necessary to give the instrument the minute accuracy which he certainly has shown to be attainable. I think that a scale of equal parts might be applied in the focus of the eye-piece for the purpose of obtaining the instrumental errors; probably a series of notches cut in the edge of a thin piece of metal by a fine screw (like the comb in a reading micrometer), if carefully made, would give a good result; but I do not think any method could compete in accuracy with the very rigorous ordeal adopted by Professor Kaiser.

Charlton, Nov. 2, 1866.

Note by Messrs. De La Rue, Stewart, and Loewy, on the Distribution of Solar-spotted Area in Heliographic Latitude.

In a paper which is now being printed, and which forms the second series of our Researches on Solar Physics, we have investigated the relation between solar activity and the ecliptical longitude of the planets; and as a result we believe that we have discovered a connexion between the behaviour of sun-spots and the longitudes of *Venus* and *Jupiter*.

We have under consideration another branch of this research, which, however, cannot be completed for some time; but, as the results already obtained seem to be of interest at the present moment, we venture to lay them before the Royal Astronomical Society.

Mr. Carrington, it is well known, has given, in his most interesting volume on the Sun, a diagram exhibiting the distribution in heliographic latitude of sun-spots from time to time. Now, if *Venus* and *Jupiter* have an influence on solar activity, it might reasonably be conjectured that, when these

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planets crossed the solar equator, the solar activity would be more confined to the equatoreal regions of the Sun, and that when they were furthest removed from the solar equator this activity would extend outwards towards the solar poles.

It appears to us that in Carrington's diagram there is probably evidence of an action of this kind due to both of these planets; and in the table which accompanies this note, and which has been derived in a general manner from Carrington's diagram, it will be seen how closely the minor epochs of solar activity in their approach to the equator agree with the epochs at which *Venus* crosses the solar equator, and how the solar activity spreads out towards the poles at those times when *Venus* is farthest removed from the solar equator.*

The influence of *Jupiter* and a more searching investigation into that of *Venus* will occupy our earliest attention.

It will be seen from a late circular of M. Chacornac that he has drawn attention to Carrington's curve of latitude and to the minor sinuosities, without however giving the above explanation.

Lastly, we may state that we are led by our investigations to the conclusion that solar activity, as shown in the phenomena of sun-spots, would not exist but for planetary motion any more than certain physical phenomena of the planets would be produced without solar influence.

October 30, 1866.

Times of Nearest Approach of Venus to the Solar Equator, and of crossing it.

1	1854	Between	January	5	and	January	10
2		,,	April	26	,,	May	1
3		,,	August	17	,,	August	23
4		,,	December	6	,,	December	12
5	1855	,,	March	30	,,	April	4
6		,,	July	20	,,	July	24
7		,,	November	10	,,	November	14
8	1856	,,	February	29	,,	March	5
9		,,	June	22	,,	June	26
10		,,	October	11	,,	October	16
11	1857	,,	February	1	,,	February	6
12		,,	May	24	,,	May	28
13		,,	September	14	,,	September	19
14	1858	,,	January	4	,,	January	8
15		,,	April	27	,,	May	1
16		,,	August	16	,,	August	21
17		,,	December	7	,,	December	12

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* A chart accompanied this notice, which will be printed in the series of papers in course of publication by the Authors.

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18	1859	Between	March	29	and	April	2
19		,,	July	20	,,	July	25
20		,,	November	8	,,	November	13
21	1860	,,	March	1	,,	March	5
22		,,	June	20	,,	June	25
23		,,	October	11	,,	October	16
24	1861	,,	January	31	,,	February	4

On the Solar Eclipse of October 8, 1866.
By John Joynson, Esq.

(*Communicated by John F. Stanistreet, F.R.A.S.*)

The partial eclipse of the Sun was observed here to-day under favourable circumstances, for although there was a considerable amount of damp and haze in the atmosphere, owing to the light easterly wind, the sky was almost entirely free from cloud, so that the progress of the Moon over the Sun's disk could be continuously watched from the first contact of the limbs until the Sun was nearly down on the horizon.

The observation, made with a $3\frac{1}{2}$-inch lens and a power of 60, resulted in getting the time of first contact of limbs at $4^h\ 19^m\ 4^s{\cdot}7$, Mean Time at Greenwich, which is somewhat later than the calculated time for this place, but which, it is believed, may be depended upon as not later than the absolute time of contact more than two or three seconds.

The time was taken by the aid of a sidereal chronometer; the error of which was determined by the transit of γ *Draconis* and ζ *Aquilæ*.

Waterloo, 8 *October*, 1866;

Geocentric Lat. 53° 17′ 24″ N.
Longitude 3 1 44 W.

On the Solar Eclipse of October 8, 1866.
By C. G. Talmage, Esq.

The afternoon was all that could be desired for the observing this Eclipse, not a cloud was in the sky, though, from the prevalence of an easterly wind and the great South Declination of the Sun, the limbs boiled violently.

As the body of the Sun became obscured the light changed in colour in a very marked manner; and at the greatest phase visible here, the light was quite of a reddish-yellow tinge. The time of the first contact was observed with the full aperture of